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How Climate Change Threatens the U.S. Financial System.

It's hard to fight something you can't see. But that's the unfortunate position that our financial system is in as it faces increasing challenges from climate change. It's time for the financial system to wake up to the threat.

As the most politically polarized issue, climate change rarely finds total agreement. So many were likely surprised recently when representatives of oil companies, agribusinesses, banks, retirement funds and environmental organizations, plus some academics like me, jointly authored and unanimously endorsed a government report calling out the risks of climate change to the U.S. financial system. Working together for the top U.S. regulatory agency for derivatives, we wrote that climate change poses an important threat, and the financial system needs to get ready. And we provided dozens of recommendations for what can be done.

There is a lot to fix. For one thing, our government needs to limit the scale of the problem going forward. Dumping climate pollution into the atmosphere is currently free. There needs to be a cost of disrupting our climate. Our legislators need to put a price on carbon.

Meanwhile, our government regulators need to be aware of and prioritize the climate-related risks to the financial system. These risks need to be better quantified, and more transparent to investors, so they can be priced appropriately.

Climate change poses a variety of threats related to commodities like crops and fossil fuels, as well as to real estate and other economic sectors. In the Midwest, we regularly see crops ruined by droughts or floods. We expect wetter springs, bigger downpours and more variable precipitation during hotter summers to crash yields more often. The agricultural banks that many farmers depend on for credit are typically small and disproportionately exposed to these regional extreme weather events. If droughts and floods that threaten farmers' livelihoods also degrade their banks' ability to provide credit, recovery from these events will be even more difficult.

Recently, climate-related threats to homes and properties have become painfully obvious on our coasts. In the West, wildfires have grown in size, with terrible consequences. In the East and South, more powerful and wetter hurricanes, pushing storm surges on top of a higher ocean and gulf, have flooded and torn apart homes and businesses. The insurance sector is already reacting to these changing threats; its regulators need to help companies assess their exposure in a transparent and comparable manner.

The primary climate risk to the oil, gas and coal industries is that society will take our advice and add the full cost of climatic disruption to the price of fossil fuels. Such a price increase would incentivize companies and individuals to use less of these fuels. A reduction in demand would depress the values of fossil fuels, their discovered but untapped reserves, and the companies that participate in this sector. This risk needs to be clearly quantified for investors.

It's relatively easy to see how individual events such as floods or fires can affect individual commodities, sectors or even a region. However, the financial system must see how ongoing changes

can connect through the market to more broadly threaten its ability to function. For instance, sea-level rise could reduce coastal home values, reducing cities' tax bases and their capacity to make payments on municipal bonds (which may have paid for flood control measures to begin with). Bond defaults are a threat that we want our financial system to manage. But how can it do this if it doesn't see the problem coming?

The risks related to climate change need to be clear to those who put money in the game. Investors, whether they are buying crop futures, municipal bonds, corporate debt or stock in insurance or energy companies, must be able to evaluate their climate risk exposure. We need a commonly accepted level of climate risk that requires disclosure, and straightforward, comparable and fair methods for companies to determine this risk.

The system needs to be prepared for times when everything goes wrong at once. Aren't we learning this from 2020? Climate disruption increases the chance that the many different weather-related threats will get bigger, happen more often and happen at the same time. Each event is a disaster for many people, and a minor challenge to the financial system. But more and more often, economically damaging events will pile up on top of one another. We need a government that opens its eyes to climate change and gets our financial system ready.

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